

# Zonecheck Flow Switch Tester



## Manifold Models

UL/FM Models with 110 V Pump

ZC20

ZC25

ZC30

ZC40

ULC Models with 110 V Pump

ZC20A

ZC25A

ZC30A

ZC40A

## Retrofit Models

UL/FM Models with 110V Pump

ZCR20

ZCR25

ZCR30

ZCR40

ZCR60

ZCR80

ULC Models with 110 V Pump

ZCR20A

ZCR25A

ZCR30A

ZCR40A

ZCR60A

ZCR80A

International Models with 220 V Pump

ZCR20E

ZCR25E

ZCR30E

ZCR40E

ZCR60E

ZCR80E

## Replacement Parts

ZCK-1 Zonecheck 110V Keyswitch

ZCK-1E Zonecheck 220V Keyswitch

ZCP-110 Zonecheck 110V Pump

ZCP-220 Zonecheck 220V Pump

ZCR30



## Product Overview

**Simplifies compliance to NFPA 25 for quarterly flow switch testing**

**Does not require opening the inspector's test connection**

**Saves as much as 400 gallons of water per flow switch per year**

**Does not activate the building's fire pump**

**Testing initiated by a key switch**

**Key switches may be interconnected to control all Zonechecks from one master switch**

**Significantly reduces testing time**

**Includes a System Sensor flow switch with each model**

**Offered in manifold and retrofit configurations**

**System Sensor's Zonecheck flow switch tester is an automatic method for performing quarterly flow switch tests per NFPA 25.**

**Code Compliance.** Quarterly flow switch tests are mandated by NFPA 25. Zonecheck simplifies testing by re-circulating the water within the pipe around the flow switch, to simulate the flow of one sprinkler head in operation. This simulation is achieved without having to open the inspector's test connection.

**Environmental Savings.** Zonecheck re-circulates the water within the pipe, so no water is expelled from the system. Over the course of one year, Zonecheck can save as much as 400 gallons of water per flow switch, per year.

**Ensured Life Safety.** Since Zonecheck does not require opening the inspector's test connection, a building's fire pump is not activated, to avoid unnecessary fire department dispatches. This also reduces the likelihood of the fire pump being turned off manually during flow switch testing, thereby ensuring the sprinkler system's integrity.

**Time Savings.** Zonecheck's pump is activated by the turn of a key switch. The key switch may be wired to initiate one pump locally, or can be interconnected. When interconnected, any key switch may activate all Zonecheck pumps, to significantly reduce testing time.

**Applications Flexibility.** All Zonechecks are equipped with a System Sensor flow switch. Models include manifold and retrofit configurations with either 110V or 220V pumps, and UL, ULC, or International style flow switches.



## Standard Specifications

### Working Pressure Rating

175 PSI

### Operating Temperature Range

32°F - 120°F (0°C - 49°C)

### Compatible Pipe (Manifold Models)

Schedule 10, 2" - 4" diameter

### Compatible Pipe (Retrofit Models)

Schedule 10 and 40, 2" - 8" diameter  
(50 mm through 200 mm)

### Service Use

Inspection, Testing and Maintenance  
of Water-Based Fire Protection  
Systems: NFPA25  
National Fire Alarm Code: NFPA 72

### Manifold Assembly Length (Manifold Models)

25.6" (65 cm)

### Component Connections (included) (Manifold Models)

2 - 1" NPT/25mm British Standard  
Thread elbows

### Component Connections (included) (Retrofit Models)

2 - 1" NPT/25mm British Standard  
Thread elbows  
2 - 25mm British Standard  
Thread elbows

### Valves (included)

Red: Standard valve  
Green: Contains check valve

### Warranty

3 years

## Approximate Weight

Style	Weight
ZCR20	31 lbs. (14.1 kg)
ZCR25	31.5 lbs. (14.3 kg)
ZCR30	32 lbs. (14.5 kg)
ZCR40	33 lbs. (14.9 kg)
ZCR60	34 lbs. (15.4 kg)
ZCR80	35 lbs. (15.9 kg)
ZC20	37 lbs. (16.8 kg)
ZC25	39 lbs. (17.7 kg)
ZC30	41 lbs. (18.6 kg)
ZC40	45 lbs. (28.8 kg)

## Electrical Specifications

### Pump Operating Voltages

UL, ULC, FM models: 1.63 A @ 110 V,  
60 Hz International models : 0.88 A  
@ 220 V, 50Hz

### Key Switch Operating Voltage

ZCK-1: 110VAC ZCK-1E: 220VAC

### Key Switch Mounting Options

Includes back box for surface or flush  
mounting. For pre-wiring, use a  
4-11/16" x 4-11/16" back box.

## Flow Switch Included with Zonecheck

### UL/FM Models with 110V Pump

Retrofit Model	Manifold Model	Flow Switch Model Included
ZCR20	ZC20	WFD20
ZCR25	ZC25	WFD25
ZCR30	ZC30	WFD30
ZCR40	ZC40	WFD40
ZCR60		WFD60
ZCR80		WFD80

### ULC Models with 110 V Pump

Retrofit Model	Manifold Model	Flow Switch Model Included
ZCR20A	ZC20A	WFD20A
ZCR25A	ZC25A	WFD25A
ZCR30A	ZC30A	WFD30A
ZCR40A	ZC40A	WFD40A
ZCR60A		WFD60A
ZCR80A		WFD80A

### International Models with 220 V Pump

Retrofit Model	Flow Switch Model Included
ZCR20E	WFD20E
ZCR25E	WFD25E
ZCR30E	WFD30E
ZCR40E	WFD40E
ZCR60E	WFD60E
ZCR80E	WFD80E

For flow switch specifications, refer to the appropriate flow switch  
instructions manuals.

### Key Switch Operation Modes

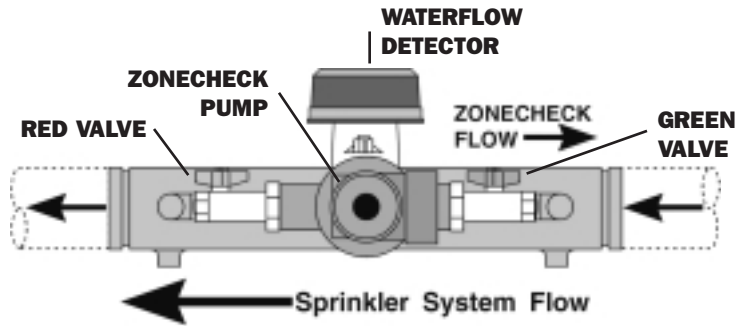
Self-test: Wired locally  
Group test: Interconnected

### Key Switch LED Operation

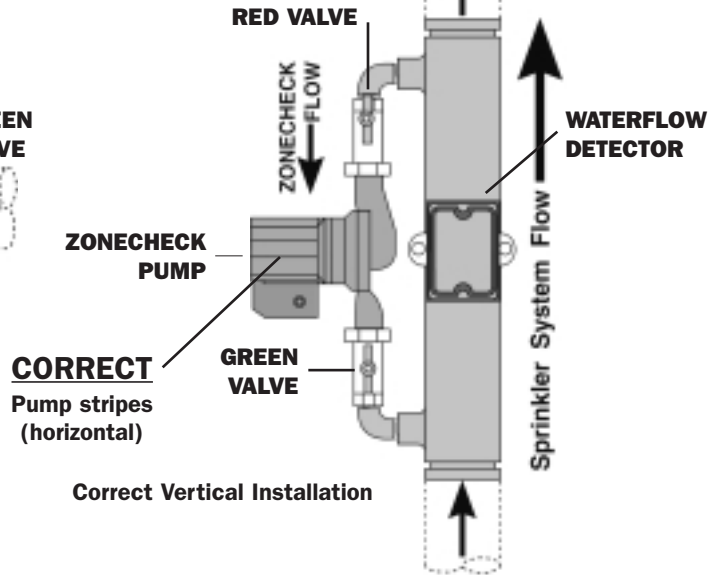
Ready state: No LED  
Test initiation: Green LED  
Flow switch activation: Red LED

## Zonecheck Installation

For flow switch specifications, refer to the appropriate flow switch instructions ma

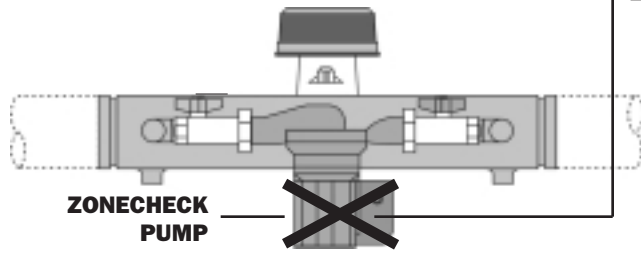


Correct Horizontal Installation



**CORRECT**  
Pump stripes  
(horizontal)

Correct Vertical Installation

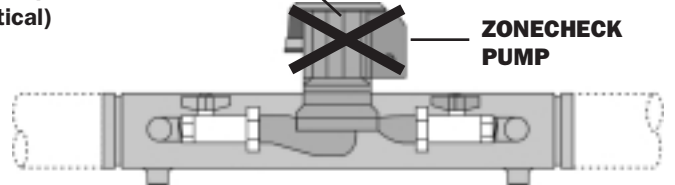


**ZONECHECK PUMP**

Incorrect Horizontal Installation

## **INCORRECT**

Pump stripes  
(vertical)



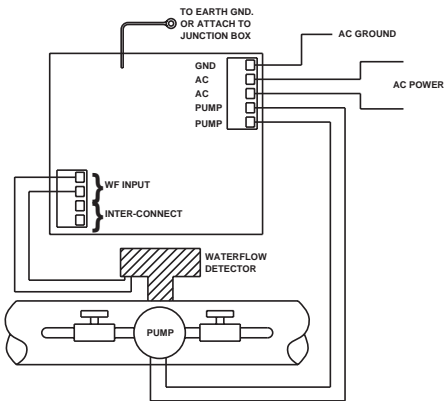
**ZONECHECK PUMP**

Incorrect Horizontal Installation

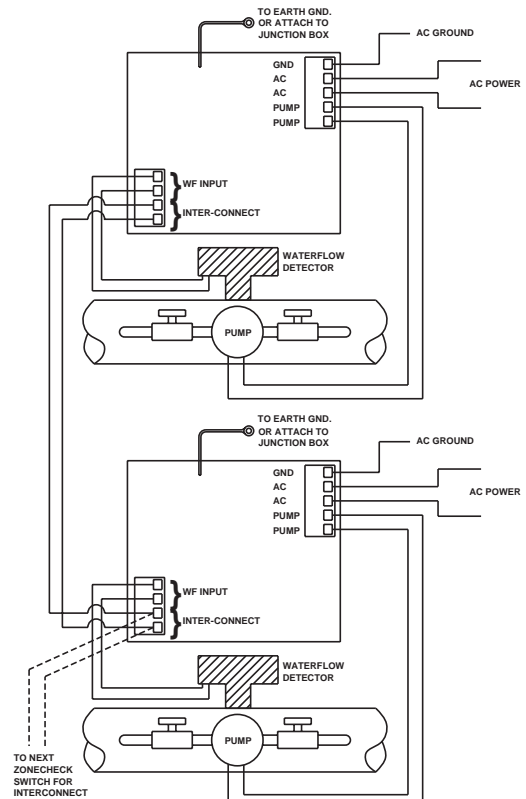
## Electrical Wiring Diagrams

### FOR INTERCONNECTING MULTIPLE ZONECHECK UNITS

#### WIRING DIAGRAM FOR STAND ALONE APPLICATION



NOTE:  
WF INPUT NOT REQUIRED FOR  
KEYSWITCH OPERATION IF WATERFLOW  
DETECTOR IS CONNECTED TO PANEL  
OR OTHER MONITORING DEVICE.  
AC POWER AND PUMP WIRING  
MUST CONFORM TO NEC OR  
YOUR LOCAL CODES.



## Engineering Specifications

### General/Retrofit Model Specifications

Model shall be a Zonecheck Flow Switch Tester model \_\_\_\_\_ as manufactured by System Sensor. Flow Switch Tester shall be installed on a sprinkler system riser as designated on the drawings and/or as specified herein. Flow Switch Tester assembly shall mount on any clear pipe span of the appropriate nominal size, either in a vertical upflow or horizontal run, between 6" and 12" from the flow switch. Flow Switch Tester shall consist of a recirculating pump, operating at nominal 110V or 220V as appropriate, two (2) sets of valves and elbows to facilitate the circulation of the water, a System Sensor vane-type waterflow detector, and a key switch to activate the recirculating pump. When activated, the pump shall circulate the water within the sprinkler riser around the waterflow detector vane to simulate the flow of one sprinkler head in operation. The activating key switch shall provide the means to be wired locally to one Zonecheck Flow Switch Tester, or interconnected with other key switches for group activation. Flow Switch Tester shall be available for manifold and retrofit installation applications. Zonecheck Flow Switch Tester retrofit models shall be approved by Underwriters Laboratories, Inc.

### Manifold Model Specifications

Zonecheck Automatic Flow Switch Tester manifold models shall further consist of a schedule 10 pipe assembly of the appropriate nominal size. Manifold assembly shall provide grooved ends for accepting the appropriate grooved connection fittings. Manifold assembly shall include no less than two drain ports with the appropriate drain plugs. Manifold Zonecheck models shall come with the pump, valves, elbows, pipe assembly, drain plugs, and System Sensor waterflow detector pre-assembled. Zonecheck Flow Switch Tester manifold models shall be approved by Underwriters Laboratories, Inc.

## Ordering Information

Manifold Model Number	Pipe Size	Pump Voltage	Flow Switch
ZC20	2"	110V	WFD20
ZC25	2 1/2"	110V	WFD25
ZC30	3"	110V	WFD30
ZC40	4"	110V	WFD40
ZC20A	2"	110V	WFD20A
ZC25A	2 1/2"	110V	WFD25A
ZC30A	3"	110V	WFD30A
ZC40A	4"	110V	WFD40A

Retrofit Model Number	Pipe Size	Pump Voltage	Flow Switch
ZCR20	2"	110V	WFD20
ZCR25	2 1/2"	110V	WFD25
ZCR30	3"	110V	WFD30
ZCR40	4"	110V	WFD40
ZCR60	6"	110V	WFD60
ZCR80	8"	110V	WFD80
ZCR20A	2"	110V	WFD20A
ZCR25A	2 1/2"	110V	WFD25A
ZCR30A	3"	110V	WFD30A
ZCR40A	4"	110V	WFD40A
ZCR60A	6"	110V	WFD60A
ZCR80A	8"	110V	WFD80A
ZCR20E	50 mm	220V	WFD20E
ZCR25E	65 mm	220V	WFD25E
ZCR30E	80 mm	220V	WFD30E
ZCR40E	100 mm	220V	WFD40E
ZCR60E	150 mm	220V	WFD60E
ZCR80E	200 mm	220V	WFD80E

Replacement Model No.	Description
ZCK-1	110V Keyswitch
ZCK-1E	220V Keyswitch
ZCP-110	110V Pump
ZCP-220	220V Pump

## System Sensor Sales and Service

### System Sensor Headquarters

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St. Charles, IL 60174  
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Fx: 630/377-6495  
Documents On Demand:  
1-800-736-7672 x3  
Web: www.systemsensor.com

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### System Sensor in Europe

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Fx: + 44.1403.276501

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### System Sensor in Australia

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